

**LPDES PERMIT NO. LA0004367 (Agency Interest No. 1357)****LPDES FACT SHEET and RATIONALE**  
**FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA**

- I. Company/Facility Name:** Cytex Industries, Inc.  
Fortier Plant  
10800 River Road  
Waggaman, Louisiana 70094
- II. Issuing Office:** Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services  
Water Permits Division  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313
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**Date Prepared:** March 4, 2009

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

**IV. Permit Action/Status:**

**A. Reason For Permit Action:**

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes.

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only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX, Chapter 11) will not have dual references.

- B. LPDES permit: Permit effective date: March 1, 2004  
 Permit expiration date: February 28, 2009

EPA has not retained enforcement authority.

- C. Application submittal date: Application received on November 3, 2008,  
 Application addendums received on April 1, 2009 and May 4, 2009.

**V. Facility Information:**

- A. Location -- 10800 River Road, Waggaman, Jefferson Parish  
 B. Applicant Activity -

According to the application, Cytec Industries, Inc., Fortier Plant is an organic and inorganic chemical manufacturing facility which produces a variety of intermediate and end products, including acetone cyanohydrins, acetonitrile, acrylonitrile, acrylamide, hydrogen cyanide, melamine, methyl methacrylate, methacrylic acid, urea (intermediate product only), hydrogen cyanide (intermediate product only) and sulfuric acid. Process wastewaters from the facility are either routed to the facility's end of pipe wastewater treatment system or deep well disposal system. See the LPDES application Form 2C (November 3, 2008) for a summary of the disposal/treatment mechanisms for the individual processes.

Production of aminonitrile at the facility was recently discontinued at the site; however, Cytec may resume production in the future. If production resumes in the future, the wastewaters associated with aminonitrile production will be routed to the deep well disposal system.

Cytec discontinued production of methanol in 1999 and ammonia in April 2001. All of these units and associated cooling towers have been demolished and the area runoff is directed to the intercept ditch.

- C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

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Guidelines

Organic Chemicals, Plastics,  
 and Synthetic Fibers

Reference

40 CFR 414, Subparts F, G, H and J

Other sources of technology based limits:

- LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
- Best Professional Judgement
- Class IV Sanitary Discharge General Permit (LAG570000)

D. Fee Rate -

1. Fee Rating Facility Type: Major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2869 and 2819

E. Continuous Facility Effluent Flow - 2.55 MGD (30-day max)

**VI. Receiving Waters:**

A. Mississippi River (Outfalls 001 and 003):

- TSS (15%), mg/L: 31.4 mg/l\*
- Average Hardness, mg/L CaCO<sub>3</sub>: 152.7 mg/l\*
- Critical Flow, cfs: 141,955\*
- Mixing Zone Fraction: 1/3
- Harmonic Mean Flow, cfs: 366,748\*
- River Basin: Mississippi River, Segment No.: 070301
- Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply

\* Stream data information based upon the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11. Hardness and 15% TSS data come from ambient monitoring stations #47 (Mississippi River at Luling, near the west bank ferry landing at Luling) and #48 (Mississippi River near Luling, near the east bank ferry landing across from Luling).

B. Lake Cataouatche via local drainage (Outfall 002)

- River Basin: Barataria Basin, Segment No.: 020303

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Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation

## VII. Outfall Information:

### Outfall 001.

- A. Type of wastewater – The continuous discharge of treated process wastewater, process area stormwater, utility wastewater, cooling tower blowdown and treated sanitary wastewater
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- B. Location – At the point of discharge from the sample station located on the outfall line prior to combining with the clarifier discharge (Latitude 29°57'53", Longitude 90°16'08")
- C. Treatment – Treatment of wastewater consists of:
- ammonia stripping and recovery (urea/melamine wastewaters)
  - neutralization (sulfuric acid wastewaters)
  - activated sludge (sanitary wastewater)
  - equalization/neutralization
  - flocculation
  - clarification
  - solids dewatering
- D. Flow – Continuous: 2.55 MGD (30-Day Max)

#### Contributing flows:

Methyl Methacrylate/Methacrylic Acid-	0.035 MGD
Urea/Melamine-	0.347 MGD
Acrylonitrile/Acetonitrile -	0.509 MGD
Chemical Storage -	0.0001 MGD
Sanitary Wastewater -	0.14 MGD
Process Area Stormwater -	0.408 MGD
Utility Wastewaters* -	0.186 MGD
Sulfuric Acid -	0.25 MGD
Cooling Tower Blowdown -	0.673 MGD

- \* The utility wastewaters consist of maintenance equipment cleaning and washdown contaminated with cooling tower residuals and water treatment chemicals; indirect process contact from pump

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seals contaminated with lime and traces of oil and grease; and non-contact ancillary (boiler utilities) including filter backwashes, softener regeneration from water treatment unit and associated treatment chemicals.

- E. Receiving waters – Mississippi River
  - F. Basin and segment – Mississippi River Basin, Segment 070301
  - G. Effluent data – See Appendix C
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Outfall 002

- A. Type of wastewater – The intermittent discharge of low contamination potential stormwater runoff from the developed (fenced) area of the facility that overflows the intercept ditch during high rainfall events\*
  - \* The stormwater that falls on the plant's developed (fenced) area (including process areas) flows by gravity and is collected in the intercept ditch on the south end of the facility's developed area. The stormwater is then pumped from Pumping Station 5 to the equalization basin at the EOP Wastewater Treatment Plant where it mixes with process wastewaters and is treated and discharged to the Mississippi River via Outfall 001. When the intercept ditch Pumping Station 5 can not keep pace with the water entering the ditch, the stormwater overflows at the concrete weir designated as Outfall 002. Discharge only occurs during heavy rainfall events. This stormwater has been determined to have low potential for contamination since it is essentially post first flush stormwater.
- B. Location – At the point of discharge from the overflow weir prior to leaving the plant developed area or combining with other waters (Latitude 29°57'13", Longitude 90°16'16")
- C. Treatment – None
- D. Flow – Intermittent and variable
- E. Receiving waters – Lake Cataouatche via local drainage

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- F. Basin and segment – Barataria Basin, Segment 020303
- G. Effluent data – See Appendix C

Outfall 003

- A. Type of wastewater – The continuous discharge of clarifier underflow
- B. Location – At the point of discharge of the return flow from the raw river water intake clarifier prior to combining with other waters (Latitude 29°57'48"; Longitude 90°16'15")
- C. Treatment – None
- D. Flow – Intermittent and variable; 30 day max flow is 0.191 MGD
- E. Receiving waters – Mississippi River
- F. Basin and segment – Mississippi River Basin, Segment 070301

**VIII. Proposed Permit Limits and Rationale:**

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. PERMIT CHANGES

1. Outfall 001 – Mass limitations have decreased based upon new flow information provided in the November 3, 2008 application.
2. Outfall 001 – The biomonitoring dilution series has changed based upon new flow information.

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3. Outfall 001 – Phosphorus monitoring has been removed from the permit due to the receiving stream's current 303(d) status.
4. Outfall 001 – All previously calculated loadings attributed to the methanol plant and the ammonia plant have been removed from the permit since these units are no longer in operation.
5. Outfall 002 – Phosphorus monitoring has been added to the permit as per the *Lake Cataouatche TMDLs for Dissolved Oxygen and Nutrients*.

#### B. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

#### TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for the limitations established in the permit.

Cytec Industries, Inc. is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

##### Manufacturing Operation

Organic Chemicals, Plastics, and  
 Synthetic Fibers

##### Guideline

40 CFR 414, Subparts F, G, H and J

#### WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limitations by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

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In accordance with 40 CFR 122.44(d)(1)/LAC 33:IX.2707.D.1., the existing discharge was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limitations:

Hexachlorobenzene

Minimum quantification levels (MQLs) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

To further ensure compliance with 40 CFR 122.44(d)(1), whole effluent toxicity testing has been established for Outfall 001 (See Section VIII.E below).

C. PROPOSED EFFLUENT LIMITATIONS

**Outfall 001** – The continuous discharge of treated process wastewater, process area stormwater, utility wastewater, cooling tower blowdown and treated sanitary wastewater

Parameter	Monthly Avg. (lbs/day)	Daily Max. (lbs/day)	Frequency	Sample Type
Flow-MGD	Report	Report	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	---	0(*1)	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	---	446(*1)	Continuous	Recorder
pH Min/Max Values (Standard Units)	Report (Min)	Report (Max)	Continuous	Recorder
BOD <sub>5</sub>	581	1519	1/month	24-hr. Composite
TSS	1005	3195	1/day	24-hr. Composite
Oil & Grease	213	319	3/week	Grab
Ammonia as N	2710	5800	1/day	24-hr. Composite
Organic Nitrogen	3000	9000	1/day	24-hr. Composite
Fecal Coliform (col/100 ml)	200	400	1/month	Grab



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METALS

Total Copper	6.16	14.35	1/month	24-hr. Composite
Total Nickel	7.17	16.90	1/month	24-hr. Composite
Total Zinc	5.89	14.65	2/week	24-hr. Composite
Total Cyanide	6.91	19.74	1/day	24-hr. Composite

VOLATILE COMPOUNDS

Acrylonitrile	1.21	3.00	1/year	24-hr. Composite
Benzene	0.74	1.73	1/year	24-hr. Composite
Carbon Tetrachloride	1.83	4.91	1/year	24-hr. Composite
Chlorobenzene	1.83	4.91	1/year	24-hr. Composite
Chloroethane	1.42	3.81	1/year	24-hr. Composite
Chloroform	1.43	4.20	1/year	24-hr. Composite
1,1-Dichloroethane	0.28	0.76	1/year	24-hr. Composite
1,2-Dichloroethane	2.33	7.42	1/year	24-hr. Composite
1,1-Dichloroethylene	0.28	0.78	1/year	24-hr. Composite
1,2-trans-Dichloroethylene	0.32	0.85	1/year	24-hr. Composite
1,2-Dichloropropane	2.53	10.26	1/year	24-hr. Composite
1,3-Dichloropropylene	2.53	10.26	1/year	24-hr. Composite
Ethylbenzene	1.83	4.91	1/year	24-hr. Composite
Methyl Chloride	1.42	3.81	1/year	24-hr. Composite
Methylene Chloride	0.47	2.20	1/year	24-hr. Composite
Tetrachloroethylene	0.67	2.12	1/year	24-hr. Composite
Toluene	0.36	0.96	1/year	24-hr. Composite
1,1,1-Trichloroethane	0.28	0.76	1/year	24-hr. Composite
1,1,2-Trichloroethane	0.41	1.64	1/year	24-hr. Composite
Trichloroethylene	0.34	0.89	1/year	24-hr. Composite
Vinyl Chloride	1.25	2.22	1/year	24-hr. Composite

ACID COMPOUNDS

2,4-Dimethylphenol	0.25	0.61	1/year	24-hr. Composite
4,6-Dinitro-o-Cresol	1.01	3.58	1/year	24-hr. Composite
2,4-Dinitrophenol	15.59	55.43	1/year	24-hr. Composite
2-Nitrophenol	0.84	2.98	1/year	24-hr. Composite
4-Nitrophenol	2.09	7.44	1/year	24-hr. Composite
Phenol	0.25	0.61	1/year	24-hr. Composite

BASE NEUTRAL COMPOUNDS

Acenaphthene	0.25	0.61	1/year	24-hr. Composite
Acenaphthylene	0.25	0.61	1/year	24-hr. Composite
Anthracene	0.25	0.61	1/year	24-hr. Composite
Benzo(a)anthracene	0.25	0.61	1/year	24-hr. Composite
Benzo(a)pyrene	0.26	0.62	1/year	24-hr. Composite
3,4-Benzofluoranthene	0.26	0.62	1/year	24-hr. Composite
Benzo(k)fluoranthene	0.25	0.61	1/year	24-hr. Composite
Bis(2-ethylhexyl) phthalate	1.23	3.33	1/year	24-hr. Composite
Chrysene	0.25	0.61	1/year	24-hr. Composite
1,2-Dichlorobenzene	2.53	10.26	1/year	24-hr. Composite
1,3-Dichlorobenzene	1.83	4.91	1/year	24-hr. Composite
1,4-Dichlorobenzene	1.83	4.91	1/year	24-hr. Composite
Diethyl phthalate	0.59	1.46	1/year	24-hr. Composite
Dimethyl phthalate	0.25	0.61	1/year	24-hr. Composite
Di-n-butyl phthalate	0.26	0.56	1/year	24-hr. Composite
Fluoranthene	0.28	0.70	1/year	24-hr. Composite
Fluorene	0.25	0.61	1/year	24-hr. Composite
Hexachlorobenzene	0.49	1.18	1/year	24-hr. Composite
Hexachlorobutadiene	1.83	4.91	1/year	24-hr. Composite

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Hexachloroethane	2.53	10.26	1/year	24-hr. Composite
Naphthalene	0.25	0.61	1/year	24-hr. Composite
Nitrobenzene	28.90	82.71	1/year	24-hr. Composite
Phenanthrene	0.25	0.61	1/year	24-hr. Composite
Pyrene	0.26	0.62	1/year	24-hr. Composite
1,2,4-Trichlorobenzene	2.53	10.26	1/year	24-hr. Composite
Whole Effluent Toxicity Testing	---	---	1/year	24 hr. Composite

(\*1) The pH shall be within the range of 6.0 – 9.0 standard units at all times subject to continuous monitoring pH range excursion provisions. Where a permittee continuously measures the pH of wastewater as a requirement or option in an LPDES permit, the permittee shall maintain the pH of such wastewater within the range set forth in the permit, except that excursions from the range are permitted, provided:

1. The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

**EFFLUENT LIMITATIONS BASIS for Outfall 001:**

**Flow:** The requirement to report flow is based upon LAC 33:IX.2707.1.1.b. and the previous permit.

**BOD<sub>5</sub>, TSS, toxic organics, Total Copper, Total Nickel, Total Zinc, Total Cyanide and pH:** Limitations are based upon 40 CFR 414 (Subparts F, G, H and J). See Site-Specific Considerations below and Appendix A for more detail on calculation of the limitations. Limitations for Hexachlorobenzene are based upon water quality (See Appendix B).

**Oil & Grease:** Mass limitations for oil and grease in the permit were calculated based upon the following concentrations: 10 mg/l (daily average) and 15 mg/l (daily maximum). These limitations have been determined to BAT for facility. The limits were initially established in the October 28, 1985 (modified November 14, 1986) and have been used in NPDES and LPDES permits since that time. See Appendix A for more information on calculation of the limitations.

**Ammonia and Organic Nitrogen:** Ammonia and Organic Nitrogen limitations have been retained from the previous permit. Although ammonia production ceased at the facility in 2001, according to the effluent data reported in the November 3, 2008 permit application, ammonia has been detected at Outfall 001 at a maximum loading of 2746 lbs/day, and with a long term average loading of 483 lbs/day. The limitations established in the permit reflect the limits from the facility's previous permits (October 12, 1992 and March 1, 2004). The proposed limitations do not pose any water quality issues.

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**Whole Effluent Toxicity Testing:** See Section E below for justification of requirements.

**SITE-SPECIFIC CONSIDERATIONS:**

The following is a summary of the production fractions used to calculate the technology limitations:

Subpart	Contributing Process	Production Fraction
Subpart F	Acrylonitrile	46.48%
Subpart G	Melamine, Methyl Methacrylate, Methacrylic Acid	44.7%
Subpart H	Acetonitrile, Hydrogen Cyanide	8.82%

**BOD, TSS and Oil & Grease BPJ Allocations:**

As established in the previous permit, the draft permit establishes BPJ allocations for BOD and TSS loadings for utility wastewaters that are based upon the total weighted OCPSF concentrations. Below is a summary of the BPJ concentrations:

BOD		TSS	
Avg	Max	Avg	Max
50% of Weighted OCPSF Concentration	50% of Weighted OCPSF Concentration	100% of Weighted OCPSF Concentration	100% of Weighted OCPSF Concentration
16.55 mg/l	44.45 mg/l	48.31 mg/l	156.47 mg/l

Additionally, as established in the previous permit, the draft permit calculates BPJ allocations for BOD, TSS and Oil & Grease. BOD and TSS loadings for sanitary wastewater are based upon secondary treatment concentrations [30 mg/l (Avg), and 45 mg/ (Max)].

As established in the previous permit, Oil and Grease loadings are calculated for all utility wastewaters, sanitary wastewater and OCPSF process flows using the following concentrations:  
 10 mg/l : 15 mg/l.

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See Appendix A-1 for a summary of the calculations.

### **Metal Bearing Stream Allocations:**

As in the previous permit, the draft permit establishes limitations for Total Copper, Total Zinc, Total Nickel and Total Cyanide based upon OCPSF effluent guidelines (40 CFR 414, Subpart J). Below is summary of the metal bearing streams for each specific metal:

*Total Copper bearing stream:* Acrylonitrile (0.509 MGD)

*Total Zinc bearing stream:* Cooling Tower Blowdown (0.673 MGD)

*Total Nickel bearing stream:* Acrylonitrile (0.509 MGD)

*Total Cyanide bearing streams:* Urea/Melamine (0.347 MGD), Methyl Methacrylate/Methacrylic Acid (0.035 MGD), Acrylonitrile (0.509 MGD), process area stormwater (0.408 MGD) and cooling tower blowdown (0.673 MGD)

See Appendix A-1 for a summary of the calculations.

**Outfall 002** - The intermittent discharge of low contamination potential stormwater runoff from the developed (fenced) area of the facility that overflows the intercept ditch during high rainfall events

Parameter	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	1/day	Estimate
COD	---	150	1/day	24-hr. Composite
Ammonia as N	---	25	1/day	24-hr. Composite
Oil & Grease	---	15	1/day	Grab
Phosphorus	---	Report	1/quarter	Grab
pH Min/Max Values (Standard Units)	6.0 (Min)	9.0 (Max)	1/day	Grab

### **EFFLUENT LIMITATIONS BASIS for Outfall 002:**

**Flow:** The requirement to report flow is based upon LAC 33:IX.2707.1.1.b.

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**COD and Ammonia:** Limitations are based upon the previous permit. These limitations have been determined to be BAT for the facility because they have been in the facility's permit since a November 15, 1986 NPDES permit modification.

**Oil & Grease:** Limitations are based upon the previous permit and LDEQ's stormwater guidance [letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)].

**pH:** Requirements are based upon the previous permit and LAC 33:IX.1113.C.1.

**Phosphorus:** Reporting requirements for phosphorus have been added to the permit as per the Lake Cataouatche TMDLs for Dissolved Oxygen and Nutrients

**OUTFALL 003** - The continuous discharge of clarifier underflow

Parameter	Monthly Avg.	Daily Max.	Frequency	Sample Type
Flow-MGD Clarifying Agents Used	Report Report	Report Report*	1/week 1/month	Estimate Inventory Calculations

- \* The quantity and types of all coagulants (clarifying agents) used in the raw river water treatment clarification system during the sampling month shall be recorded. Records of the quantity and type of coagulants used shall be retained for three (3) years following Part III.C.3. No DMR reporting shall be required.

**EFFLUENT LIMITATIONS BASIS for Outfall 003:**

**Flow:** The requirement to report flow is based upon LAC 33:IX.2707.1.1.b.

**Clarifying Agents Used:** The requirement to keep records of clarifying agents is based upon the previous permit and current Office practices for clarifier underflow discharges.

**D. MONITORING FREQUENCIES**

All monitoring frequencies are based upon the previous permit. Whole Effluent Toxicity testing frequency is based upon recommendations from the Municipal and General Water Permits Section (see Appendix D).

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#### E. BIOMONITORING REQUIREMENTS

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

##### TOXICITY TESTS

##### FREQUENCY

NOEC, Pass/Fail [0/1],  
 Lethality, Static Renewal,  
 48-Hour Acute,  
Pimephales promelas

1/year

NOEC, Value [%],  
 Lethality, Static Renewal,  
 48-Hour Acute,  
Pimephales promelas

1/year

NOEC, Value [%]  
 Coefficient of Variation, Static Renewal  
 48-Hour Acute,  
Pimephales promelas

1/year

NOEC, Pass/Fail [0/1],  
 Lethality, Static Renewal  
 48-Hour Acute,  
Daphnia pulex

1/year

NOEC, Value [%],  
 Lethality, Static Renewal  
 48-Hour Acute  
Daphnia pulex

1/year

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NOEC, Value [%] 1/year  
Coefficient of Variation, Static Renewal  
48-Hour Acute,  
Daphnia pulex

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to this Office. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

#### Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. The additional effluent concentrations shall be 0.04%, 0.05%, 0.06%, 0.08%, and 0.1% effluent. The biomonitoring critical dilution is defined as 0.08% effluent.

#### **IX. Compliance History/DMR Review:**

##### Enforcement Review

As of March 6, 2008, there are no open enforcement actions on file.

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DMR Review (excursions for the period January 2006 – January 2009):

<u>Date</u>	<u>Parameter</u>	<u>Outfall</u>	<u>Reported</u>	<u>Permit Limit</u>
11/2006	TSS	001	7814 lbs/day (max)	3755 lbs/day (max)
3/2007	pH	002	12.0 s.u. (max)	9.0 s.u. (max)
3/2007	pH	002	11.6 s.u. (max)	9.0 s.u. (max)
3/2007	pH	002	12.0 s.u. (max)	9.0 s.u. (max)
5/2007	Fecal Col.	001	210:445 col./100 ml	200:400 col./100 ml
7/2007	Fecal Col.	001	2992:20000 col./100 ml	200:400 col./100 ml
7/2007	Fecal Col.	001	>20000 col./100 ml	200:400 col./100 ml
12/2007	pH	002	3.5 s.u. (min)	6.0 s.u. (min)
12/2007	Ammonia	002	40.5 mg/l (max)	25 mg/l (max)
12/2007	pH	002	3.4 s.u. (min)	6.0 s.u. (min)
2/2008	pH	002	10.3 s.u. (max)	9.0 s.u. (max)
2/2008	pH	002	10.2 s.u. (max)	9.0 s.u. (max)

**X. Endangered Species:**

The receiving waterbodies for Cytec Industries, Inc. are Subsegment 070301 of the Mississippi River Basin, and Subsegment 020303 of the Barataria Basin. Subsegment 070301 has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which is listed as a threatened or endangered species. This draft permit has been submitted to the FWS for review in accordance with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, LDEQ has made a preliminary determination that the issuance of the LPDES permit is not likely to have an adverse effect upon the Gulf Sturgeon. However, after consultation with the FWS, the LDEQ may choose to modify this permit based on information provided by the FWS. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

**XI. Historic Sites:**

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.



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## **XII. Tentative Determination:**

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharges described in the application.

## **XIII. Variances:**

No requests for variances have been received by this Office.

## **XIV. Public Notices:**

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

A public notice will be published in a local newspaper of general circulation and in the Office of Environmental Services Public Notice Mailing List.

## **XV. TMDL Waterbodies:**

Cytec Industries, Inc. discharges process wastewaters, utility wastewaters, process area stormwater, and sanitary wastewater to the Mississippi River (Segment 070301). Segment 070301 is not listed on LDEQ's Final 2006 303(d) List, as impaired, and to date no TMDLs have been established.

Cytec also discharges stormwater runoff to Segment 020303 of the Barataria Basin, which is listed on LDEQ's Final 2006 303(d) List, as impaired for sulfates and TDS. Due to the nature of the discharges, it is not anticipated that sulfates and TDS will be discharged from the facility's Outfall 002 at levels that will cause or contribute to further impairment of the stream. No limitations for Sulfates and TDS have been established in the permit at this time.

Additionally, Segment 020303 has a TMDL established for Dissolved Oxygen and Nutrients. The *Lake Cataouatche TMDLs for Dissolved Oxygen and Nutrients* was finalized on July 8, 2005. The TMDL states, "Because oxygen demand from point sources in this subsegment was very small, the modeling assumed no changes to existing permit limits for point source discharges... These facilities are permitted in accordance with state regulation and policies that provide adequate controls... Significant existing point sources discharges are either included in the TMDL model or are determined to be insignificant by other modeling." The TMDL further

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states, "Although the nutrient TMDL includes a WLA for phosphorus, it is recommended that as a first step to implement this TMDL, the point sources should be given monitoring requirements in their permits to determine if phosphorus effluent limitations are appropriate." The only discharge from Outfall 002 in Cytec's permit is low contamination potential stormwater runoff. Due to the nature of the discharge, it is not anticipated that nutrients and dissolved oxygen will be discharged from the facility's Outfall 002 at levels that will cause or contribute to further impairment of the stream. The draft permit for Cytec currently has limitations for Ammonia (25 mg/l) based on the previous permit. Additionally, as suggested by the TMDL, a report requirement for phosphorus has been added to the permit's Outfall 002.

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A reopener clause will be included in the permit to allow for the establishment of more stringent effluent limitations and requirements as imposed by any future TMDLs.

#### **XVI. Stormwater Pollution Prevention Plan (SWP3) Requirements:**

In accordance with LAC 33:IX.2707.1.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. For first time permit issuance, the Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. For renewal permit issuance, the Part II condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].